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Scott et al.

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(54) **METHOD FOR STORING MEDIA CAPTURED USING A PORTABLE ELECTRONIC DEVICE**

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(51) **Int. Cl.**
G06F 17/30 (2006.01)

(52) **U.S. Cl.**
CPC ***G06F 17/30893*** (2013.01); ***G06F 17/3028*** (2013.01); ***G06F 17/30194*** (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

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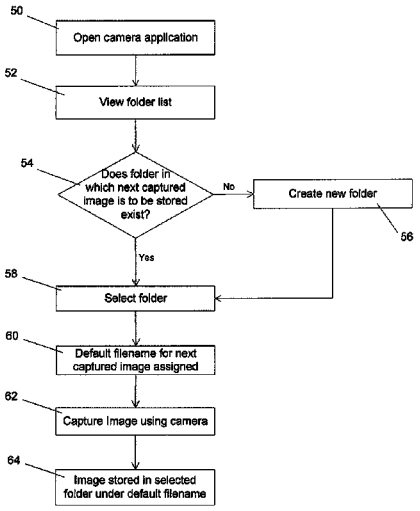
(57) **ABSTRACT**

A method for updating data in a media storage location includes: storing an identity on a portable electronic device, the identity allowing access to the media storage location; storing a file in a device memory of the portable electronic device, the file being captured by a media capturing component of the portable electronic device; and performing a synchronization operation using a media manager, the media manager being in communication with the device memory and the media storage location; the synchronization operation synchronizing data between the device memory and the media storage location.

26 Claims, 9 Drawing Sheets



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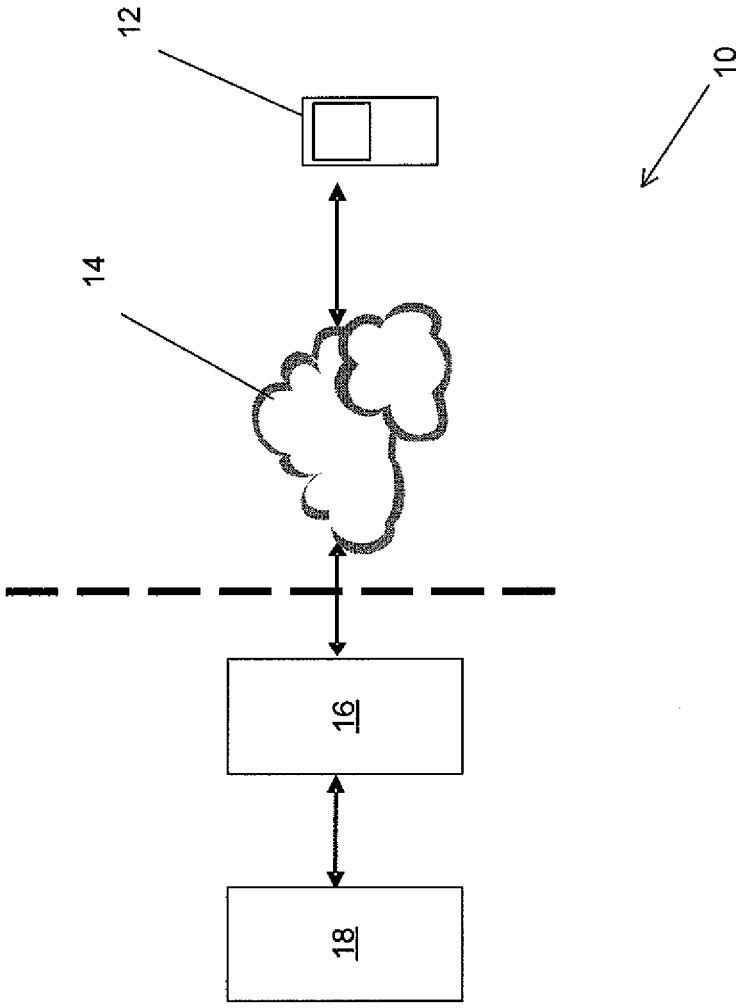

Fig. 1

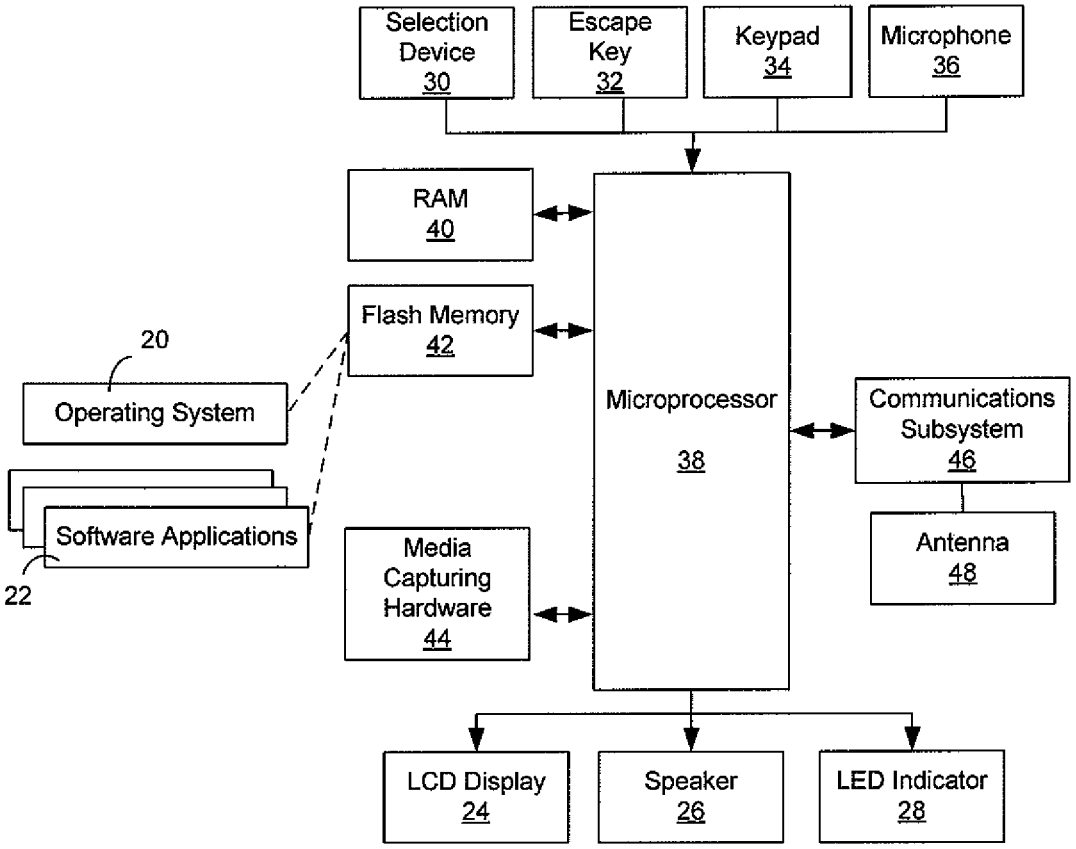
Selection Device 30
Escape Key 32
Keypad 34
Microphone 36
RAM 40
Flash Memory 42
20
Operating System
Software Applications
22
Microprocessor 38
Communications Subsystem 46
Antenna 48
Media Capturing Hardware 44
LCD Display 24
Speaker 26
LED Indicator 28

Fig. 2

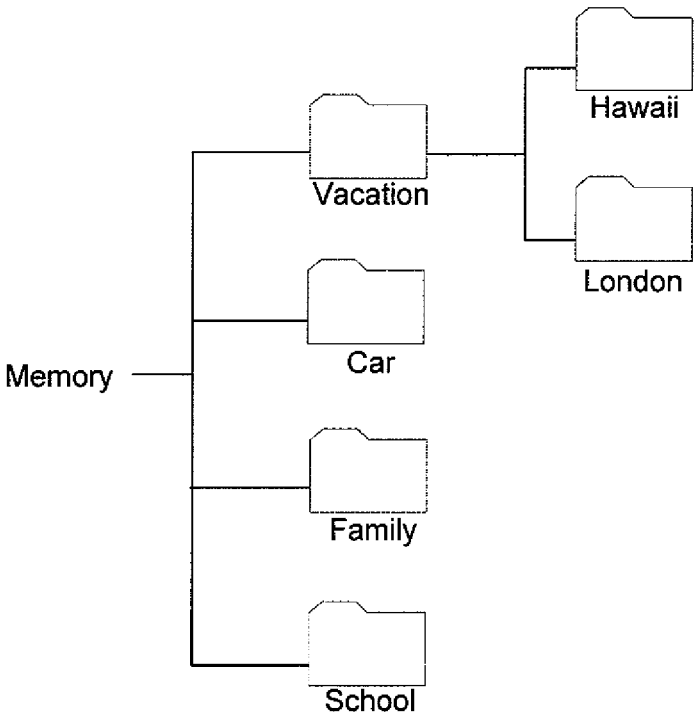
Hawaii
Vacation
London
Car
Memory
Family
School

Fig. 3

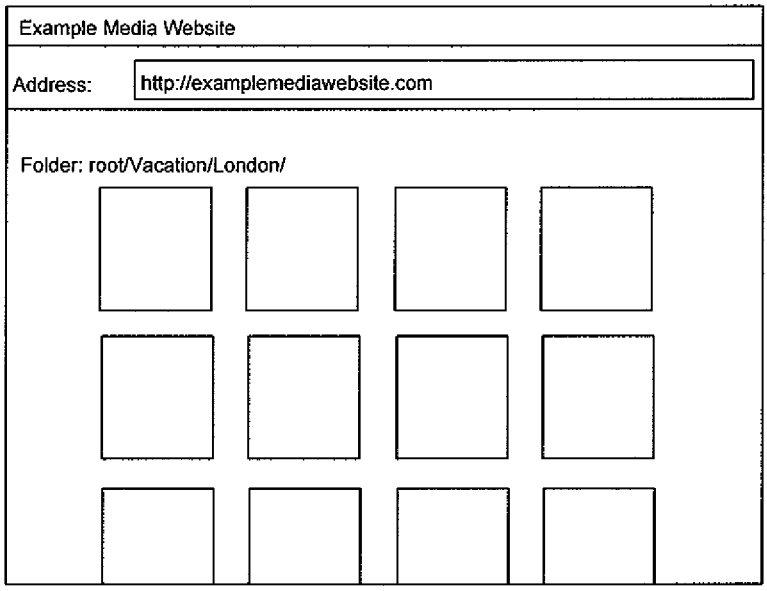
Example Media Website
Address:
http://examplemediawebsite.com
Folder: root/Vacation/London/

Fig. 4

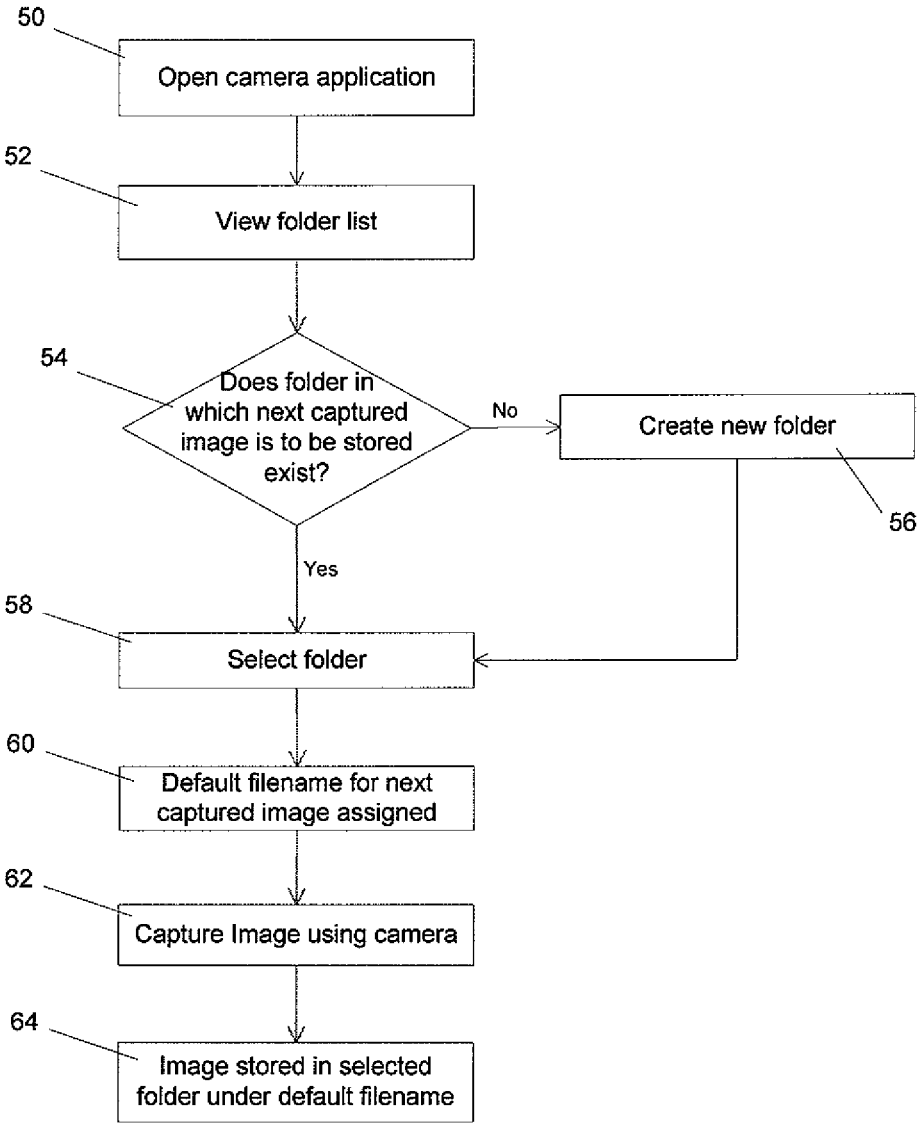
50
Open camera application
52
View folder list
54
Does folder in which next captured image is to be stored exist?
No
Create new folder
56
Yes
58
Select folder
60
Default filename for next captured image assigned
62
Capture Image using camera
64
Image stored in selected folder under default filename

Fig. 5

10:32 A
24
200 Left
320 x 240
Vacation_27
Vacation
70
66

Fig. 6

10:32 A
Device Memory
Family
Favourites
Outdoors
Media Card
Vacation
New Folder
200 Left
320 x 240
Vacation
68

Fig. 7

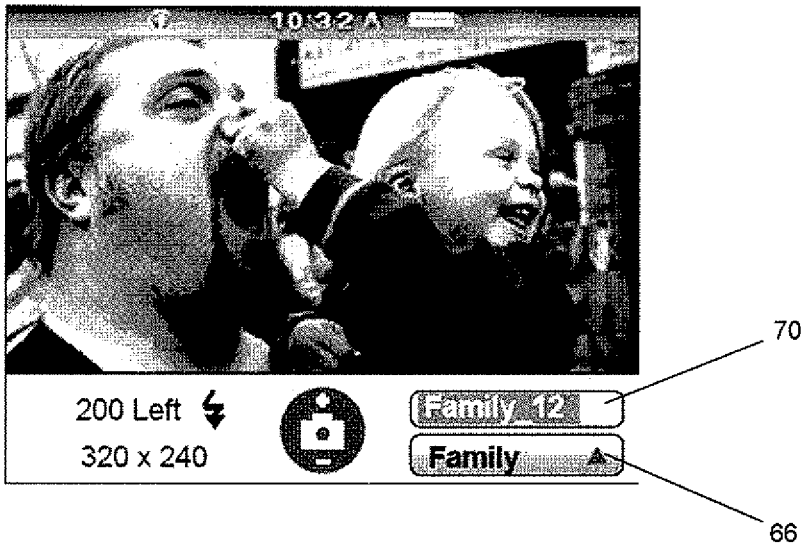
10:32 A
200 Left
320 x 240
Family_12
Family
70
66

Fig. 8

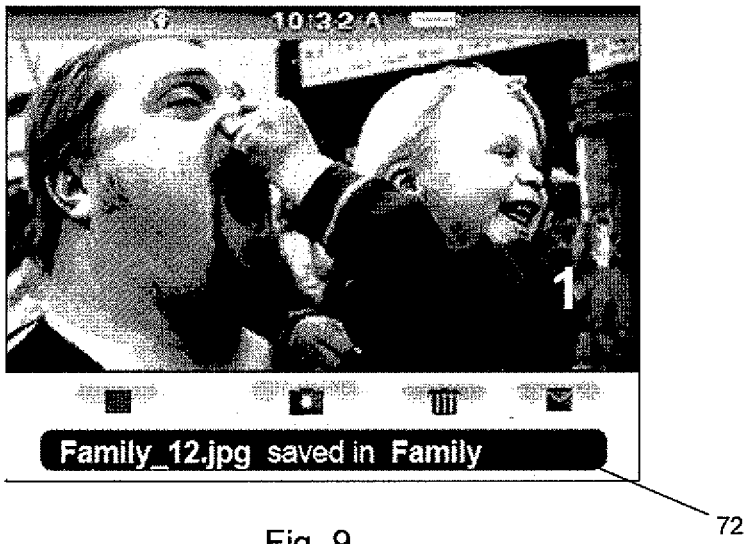
10:32 A
1
Family_12.jpg saved in Family
72

Fig. 9

Device Memory
Family
Favourites
Outdoors
Media Card
Vacation 2006
New Folder
200 Left
320 x 240
Family
68

Fig. 10

<New Folder>
Store in: Device Memory
OK
Cancel
200 Left
320 x 240
Family_13
Family
74

Fig. 11

10:32 A
My folder
Store in:
Device Memory
OK
Cancel
200 Left
320 x 240
Family_01
Family

Fig. 12

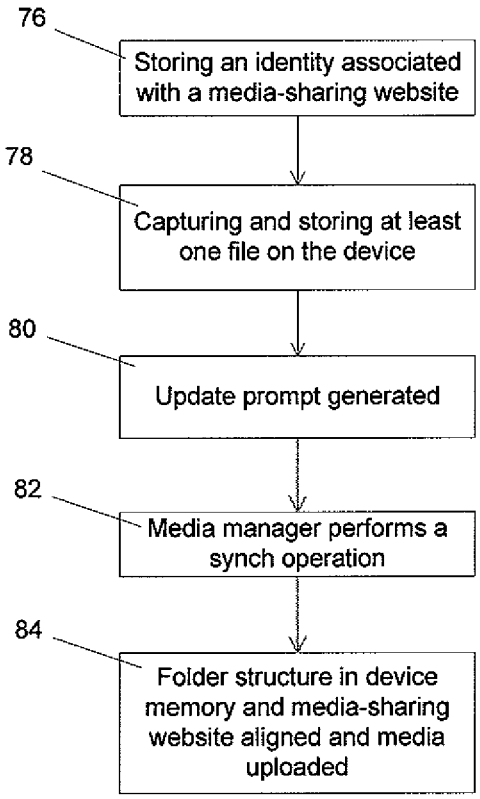
76
Storing an identity associated with a media-sharing website
78
Capturing and storing at least one file on the device
80
Update prompt generated
82
Media manager performs a synch operation
84
Folder structure in device memory and media-sharing website aligned and media uploaded

Fig. 13

METHOD FOR STORING MEDIA CAPTURED USING A PORTABLE ELECTRONIC DEVICE

CROSS REFERENCE TO RELATED APPLICATIONS

The present application is a continuation of U.S. patent application Ser. No. 11/747,257, filed May 11, 2007, the entire contents of which is incorporated herein by reference.

FIELD

The present disclosure relates to a method for storing media captured using a portable electronic device, in particular, a method for storing media in a manner that facilitates uploading of the media to a personal computer and/or a media-sharing website.

BACKGROUND

As technology advances, electronic devices continue to become smaller and include more features. Today, electronic devices such as cell phones and personal digital assistants (PDAs), for example, often include phone, email and media capturing/playing capabilities. Often, digital cameras that are integrated into the electronic devices produce photos having a photo quality that is sufficiently high to allow the electronic device to be used as a primary camera.

One drawback of both electronic device cameras and stand-alone cameras is that the amount of memory available for photo storage is limited. As a result, users must upload their photos to another storage location frequently in order to free up storage space on the camera. Many photo-sharing websites exist where users can store their photos for others to view. Examples of photo-sharing websites include: Flickr™, Webshots™, Fotolog™ and MyPhotoAlbum™. In order to upload photos from an electronic device including a camera, the photos are first saved on a personal computer and then uploaded to the photo-sharing website by selecting photos from one or more folders on the computer. Alternatively, the photos may be uploaded directly to the photo-sharing website by emailing the photos to an email address associated with the website. Once the photos have been uploaded, they can be organized and stored in albums.

Photo-sharing accounts often include hundreds or even thousands of photos. The photos may be organized into existing albums or new albums may be created. In addition, meta tags may be associated with the photos in order to allow users to locate photos quickly. The capturing, naming, uploading and organizing processes associated with storing photos captured using an electronic device on a personal computer and/or on a photo-sharing website can be very time consuming. Since these tasks are repeated frequently, it is desirable to reduce the amount of user time spent performing one or more of the steps.

BRIEF DESCRIPTION OF THE DRAWINGS

The embodiments will be better understood with reference to the following Figures in which like numerals denote like parts and in which:

FIG. **1** is a schematic diagram of a wireless communication system;

FIG. **2** is a block diagram of components of a portable electronic device according to an embodiment;

FIG. **3** is an exemplary view of a folder structure for storing files on a portable electronic device;

FIG. **4** is a view of an example media website webpage;

FIG. **5** is a flowchart showing a method of capturing and storing an image on the portable electronic device of FIGS. **1** and **2**;

FIGS. **6** through **12** are screen shots of a camera application on the portable electronic device depicting the method of FIG. **6**; and

FIG. **13** is a flowchart showing a method of updating a media-sharing website from the portable electronic device of FIGS. **1** and **2**.

DETAILED DESCRIPTION

In one aspect there is provided a method for updating a media-sharing website, the method including: storing an identity on a portable electronic device, the identity allowing access to an account on the media-sharing website; storing a file in a device memory of the portable electronic device, the file being captured by a media capturing component of the portable electronic device; performing a synchronization operation using a media manager, the media manager being in communication with the device memory and the account on the media-sharing website; wherein the synchronization operation synchronizes content between the device memory and the media-sharing website.

In another aspect there is provided a method for updating data in a media storage location, the method including: storing an identity on a portable electronic device, the identity allowing access to the media storage location; storing a file in a device memory of the portable electronic device, the file being captured by a media capturing component of the portable electronic device; and performing a synchronization operation using a media manager, the media manager being in communication with the device memory and the media storage location; wherein the synchronization operation synchronizes data between the device memory and the media storage location.

In another aspect there is provided a portable electronic device including: at least one folder stored in a device memory, the folder for storing files captured by a media capturing component of the portable electronic device; a media manager operable by a processor; an identity allowing access to a remote media storage location; wherein the media manager is in communication with the remote storage location to synchronize content between the device memory and the media storage location.

Referring now to FIG. **1**, a communication system **10** for a portable electronic device **12** is generally shown. The portable electronic device **12** is operable to effect voice and data communications over a radio communications channel and communicates with a base station (not shown) while located within a coverage area that is defined by the base station. The base station is part of a wireless network (not shown) that is in communication with the Internet **14**. Data is delivered to the portable electronic device **12** via wireless transmission from the base station. Similarly, data is sent from the portable electronic device **12** via wireless transmission to the base station. A server **18** handles wireless client requests from the portable electronic device **12**. A firewall, or proxy server, **16**, is provided between the server **18** and the Internet **14**.

It will be appreciated that the portable electronic device **12** is movable within the coverage area and can be moved to coverage areas defined by other base stations. Further, as will be understood by one skilled in the art, wireless networks include GSM/GPRS, CDPD, TDMA, iDEN, Mobitex, DataTAC networks, EDGE, EVDO or UMTS and broadband networks such as Bluetooth and variants of 802.11.

Referring now to FIG. **2**, a block diagram of certain components, including internal components within the portable electronic device **12**, is shown. The portable electronic device **12** is based on a microcomputer that includes a microprocessor **38** connected to a random access memory (RAM) unit **40** and a persistent storage device, which in the present embodiment is a flash memory **42** that is responsible for various non-volatile storage functions of the portable electronic device **12**. Operating system software **20** executable by the microprocessor **38** is stored in the flash memory **42**. It will be appreciated, however, that the operating system software **20** can be stored in other types of memory such as read-only memory (ROM). In the present embodiment, software applications **22** including Personal Information Manager (PIM) applications are stored in the persistent storage device **42** for execution by the microprocessor **38** for carrying out various functions. The microprocessor **38** receives input from various input devices including selection device **30**, such as a trackball or a thumbwheel, for example, escape key **32**, keypad **34**, and media capturing hardware **44** and outputs to various output devices including LCD display **24**, speaker **26** and LED indicator **28**.

As indicated above, the flash memory **42** stores a plurality of applications executable by the microprocessor **38** that enable the portable electronic device **12** to perform certain operations including the communication operations referred to above. Applications software is provided including, for example, PIM applications such as an email application, an address book application, a calendar application, a camera application, an audio/video application and a tasks application, as well as other applications such as a Web browser application, an options application and a profiles application.

In a data communication mode, a received signal such as a text message or Web page download is processed by the communications subsystem **46** and input to the microprocessor **38** for further processing of the received signal for output to the LCD display **24**. A user of the portable electronic device **12** can also compose data items within a software application such as an e-mail messaging application using the keypad **34**, for example, in conjunction with the selection device **30** and the LCD display **24**. Such composed items can then be transmitted over the wireless network through the communications subsystem **46** and antenna **48**.

The media capturing hardware **44** includes a camera and may further include an audio/video recorder or an audio recorder. The camera software is a Java application that interfaces with the camera. Images captured by the camera are stored in flash memory **42** on the device **12**. The images may alternatively be stored in a removable memory, such as a smartcard, a compact flash memory, a USB (Universal Serial Bus) drive, a SIM (Subscriber Identity Module) card or another suitable memory. Different types of device memory offer different storage capabilities. For example, SIM cards include a relatively small amount of storage space for image files. The image storage location is a setting that is adjustable by the user. Once the device memory is selected, folders may be created in the selected device memory to organize images on the portable electronic device **12**. An example of a folder structure on the device **12** is shown in FIG. **3**.

Referring to FIG. **4**, an example media-sharing website webpage is generally shown. Many different media-sharing websites are available for public use on the Internet including photo-sharing websites: Flickr™, Webshots™, Fotolog™ and MyPhotoAlbum™, for example. These websites allow users to create accounts and store photos. Multiple folders and sub-folders can be created to organize photos.

Referring to FIG. **5**, a method for capturing and storing an image on a portable electronic device **12** is generally shown. It will be appreciated that the method of FIG. **5** is not limited to images. The method may alternatively be applied to video clips captured using a video recorder of the portable electronic device and audio clips captured using an audio recorder of the portable electronic device. It will be appreciated that the term video clips includes video clips having audio and video-only clips.

At step **50**, the camera application is opened on the portable electronic device **12** by selecting a camera application icon (not shown) from the display **24** or by selecting a convenience key on the portable electronic device **12** (not shown). Once the device **12** is operating in camera mode, which is shown in FIG. **6**, the user is able to capture an image.

Prior to capturing an image, at step **52**, the user clicks on a current folder box **66**, which includes a default folder name, in order to view a folder drop down list **68**, which is shown in FIG. **7**. The default folder name that is displayed corresponds to the folder in which the last captured image was stored. After viewing the folder drop down list **68**, the user determines whether or not an appropriate folder exists on the device **12**, as indicated at step **54**. If the folder exists, it is selected from the folder drop down list **68**, as indicated at step **58**. If the folder does not exist, a new folder is created, as indicated at step **56**.

At step **60**, a default filename is assigned for the next image to be captured. As shown in FIGS. **6** and **8**, a filename box **70** is automatically populated based on the folder selection. The default filename includes: the folder name, an underscore character and the next available image number in that folder. In the example of FIG. **8**, the default filename is "Family_12", which indicates that there are already 11 images stored in the folder named "Family".

Once the storage destination of the next captured image has been determined, the user takes a picture, as indicated at step **62**. As step **64**, the image is stored in the selected folder and provided with the default filename. Message bar **72** on the display **24** of FIG. **9** confirms the storage operation.

Creation of a new folder at step **56** will now be described. Referring to FIGS. **10** and **11**, the user selects a "New Folder" option from the folder drop down list **68** and a folder naming window **74** is launched. The user then types in a name for the new folder, as shown in FIG. **12**, and clicks "ok". The new folder has then been created and is selectable from the folder drop down list **68**.

Once images are captured using the camera and the image files stored on the portable electronic device **12**, the image files and may be uploaded to a photo storage location on a personal computer, an external storage device and/or a photo-sharing website.

A method for updating a media-sharing website from the portable electronic device **12** is generally shown in FIG. **13**. It will be appreciated that although the method is described for a photo-sharing website, the media-sharing website could alternatively be a website on which video clips and/or audio clips are stored, for example.

At step **76**, an identity with the photo-sharing website is stored on the device **12**. The identity is created in a manner that is well known in the art and includes a user name and password. The identity allows the device **12** access to an account on the photo hosting website without requiring live user input. The identity is stored in flash memory **42** and may be the same as a work identity, an instant messaging identity or another on-line photo account identity. It will be appreciated that the identity may alternatively be stored in a removable memory, such as a smartcard, a compact flash memory, a

USB (Universal Serial Bus) drive, a SIM (Subscriber Identity Module) card or another removable memory. In addition, the identity may be stored on-line.

At step **78**, at least one image file is captured by the camera of the portable electronic device **12** and stored on the device **12** in the memory location that was previously selected by the user. The image file may be stored directly on the selected device memory or alternatively folders may be created to organize the photos.

At steps **80** and **82**, a photo manager that is in communication with the device memory and the account on the photo-sharing website performs a synchronization operation in response to an update prompt. The synchronization operation includes: synchronizing folder structure between the device **12** and the photo-sharing website and uploading image files from the device **12** to the photo-sharing website. Synchronizing folder structure includes copying folder information from the device **12** to the photo-sharing website and vice versa in order to maintain parallel folder structure therebetween. Uploading image files includes copying the image files from the folders on the device **12** to similar folders on the photo-sharing website.

Once the synchronization operation has completed, the folder structure in the device memory and the photo-sharing website account is aligned and the image files have been uploaded, as indicated at step **84**.

The photo manager is a software application that is stored in flash memory **42** and is executable by the processor **38**. During the synchronization operation, data is transferred via the photo manager application, a web browser or an alternate software application **22** on the portable electronic device **12** to the account on the photo-sharing website. The data transfer occurs in response to the update prompt, which is generated manually by the user or automatically at times specified in the photo manager settings.

The user generates the update prompt manually by opening the photo manager application and connecting to the photo-sharing account using the identity. The user then navigates through menu options using the selection device **30** to initiate the synchronization operation.

The update prompt settings of the photo manager control when and how often automatic synchronization updates between the device **12** and the photo-sharing website are performed. The user settings may be changed on the device **12** or, if the identity is stored on-line, changed in the on-line identity and synchronized to one another.

The update prompt may be set to occur at regular intervals, such as every day or every week, for example, or set to initiate the synchronization operation in response to a change in the folder structure and/or content at the device **12**, the photo-sharing website or both. Restrictions to the synchronization process may be set including only allowing updates when the device **12** has access to a transfer medium that has a minimum predefined speed. For example, the updates may be set to occur when the device **12** is operating on an EDGE (Enhanced Data GSM environment) network, UMTS (Universal Mobile Telecommunications System) network or another high speed network. Alternatively, for dual-mode wide-area-network (WAN) and cellular devices, updates may be prompted to occur when in WAN coverage. Further, an application may be provided to ping the photo-sharing website and perform updates when there is less traffic on the network to allow for faster file transfer.

It will be appreciated by a person skilled in the art that the synchronization operation is not limited to including both folder alignment and image file upload to the photo-sharing website. Instead, a folder synchronization update prompt could be provided to initiate a folder synchronization operation and an upload update prompt could be provided to initiate an image file upload operation. For example, the folder synchronization update prompt could be set to occur when changes folder structure in the device **12** and/or the photo-sharing website are detected and the upload update prompt could be set to occur once per week. Further, although upload has been described as including only copying image files from the device **12** to the photo-sharing website, uploading could also include copying image files from the photo-sharing website to the device **12**. A user setting would be provided to specify the parameters for uploading.

In another embodiment, the update prompt does not automatically initiate the synchronization operation. Instead, the photo manager prompts the user of the device **12** to perform an update when the device **12** is plugged into a personal computer. When plugged into the personal computer, the device **12** has access to faster bandwidth, which will increase the speed of data transfer. The photo manager may send a pop-up message or prompt the user in another manner in order to notify the user that there is an update to be performed. In this embodiment, the synchronization operation is launched by the user and does not take place automatically.

In yet another embodiment, the photo manager is stored on-line rather than on the portable electronic device **12**. When an update is performed, files are transferred from the device **12** to the on-line photo manager. The files are then distributed from the photo manager to a single or multiple photo-sharing website accounts. Storing the photo manager on-line provides more memory since there is no device memory limitation. Further, people other than the user are able to access the photo manager when it is on-line so that viewing and editing operations within the photo manager is not limited to the user.

Specific embodiments have been shown and described herein. However, modifications and variations may occur to those skilled in the art. All such modifications and variations are believed to be within the sphere and scope of the present embodiments.

What is claimed is:

1. A method for updating a media-sharing website, said method comprising:

storing an identity on a portable electronic device, said identity allowing access to an account on said media-sharing website;

creating a folder directory having a folder name on said portable electronic device;

receiving input on said portable electronic device selecting said folder directory;

capturing an image file to a device memory of said portable electronic device using a media capturing component of said portable electronic device;

assigning a file name to said image file; said file name including a sequence number;

storing said image file in said folder directory using said file name; and

performing a synchronization operation using a media manager, said media manager being in communication with said device memory and said account on said media-sharing website and using said identity to access said media-sharing website;

wherein said synchronization operation synchronizes content between said device memory and said media-sharing website such that said image file is stored in said media-sharing website using said file name.

2. A method as claimed in claim **1**, wherein said synchronization operation occurs in response to an update prompt.

3. A method as claimed in claim 1, wherein said folder name is named based on input provided to said portable electronic device.

4. A method as claimed in claim 3, wherein a new folder corresponding to said folder name is generated and stored on said media-sharing website as part of said synchronization operation.

5. A method as claimed in claim 3, wherein said sequence number corresponds to a number of said image files in said at least one folder incremented by one.

6. A method as claimed in claim 2, wherein said update prompt occurs at regular intervals.

7. A method as claimed in claim 2, wherein said update prompt occurs when there is a change in the device memory or the media-sharing website account.

8. A method as claimed in claim 2, wherein said update prompt is generated manually by a user.

9. A method as claimed in claim 1, wherein said synchronization operation includes copying folders and image files from said device memory to said media-sharing website.

10. A method as claimed in claim 1, wherein said synchronization operation includes copying folders from said media-sharing website to said device memory.

11. A method as claimed in claim 1, wherein said media capturing component is a camera and said media-sharing website is a photo-sharing website.

12. A method as claimed in claim 1, wherein said media capturing component is an audio/video recorder and said media-sharing website is an audio/video-sharing website.

13. A method for updating data in a media storage location, said method comprising:

storing an identity on a portable electronic device, said identity allowing access to said media storage location;

creating a folder directory on said portable electronic device having a folder name;

receiving input on said portable electronic device selecting said folder directory;

capturing a file to a device memory of said portable electronic device using a media capturing component of said portable electronic device;

assigning a file name to said file; said file name including a sequence number;

storing said file in said folder directory using said file name; and

performing a synchronization operation using a media manager, said media manager being in communication with said device memory and said media storage location and using said identity to access said media storage location;

wherein said synchronization operation synchronizes data between said device memory and said media storage location such that said file is stored in said media storage location using said file name.

14. A method as claimed in claim 13, wherein said media storage location is an account on a media-sharing website.

15. A method as claimed in claim 13, wherein said media storage location is a personal computer.

16. A method as claimed in claim 13, wherein said media storage location is an external storage device.

17. A method as claimed in claim 14, wherein said sequence number corresponds to a number of said files in said at least one folder incremented by one.

18. A method as claimed in claim 15, wherein said media capturing component is a camera and said media-sharing website is a photo-sharing website.

19. A method as claimed in claim 15, wherein said media capturing component is an audio/video recorder and said media-sharing website is an audio/video-sharing website.

20. A portable electronic device comprising:

a memory for storing an identity allowing access to a remote media storage location;

a processor interconnected with said memory, said processor configured to create a folder directory having a folder name for storage in said memory, said folder directory for storing files captured by a media capturing component of said portable electronic device;

said processor configured to receive input from an input device interconnected with said processor selecting said folder directory; said processor further configured to assign a file name to a file captured by said media capturing component, the file name including a sequence number; said processor further configured to store said file in said folder directory using said file name;

a media manager operable by said processor and in communication with said memory and said media storage location for performing a synchronization operation using said identity to access said media storage location;

wherein said synchronization operation synchronizes data between said memory and said media storage location such that said file is stored in said media storage location using said file name.

21. A portable electronic device as claimed in claim 20, wherein said media storage location is an account on a media-sharing website.

22. A portable electronic device as claimed in claim 20, wherein said media storage location is a personal computer.

23. A portable electronic device as claimed in claim 20, wherein said media storage location is an external storage device.

24. A portable electronic device as claimed in claim 20, wherein said sequence number corresponds to a number of said files in said at least one folder incremented by one.

25. A portable electronic device as claimed in claim 21, wherein said media capturing component is a camera and said media-sharing website is a photo-sharing website.

26. A portable electronic device as claimed in claim 21, wherein said media capturing component is an audio/video recorder and said media-sharing website is an audio/video-sharing website.

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